Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte JOHN J. JANSSEN and ALEXANDER W. HIETALA

Appeal No. 1998-1792
Application No. 08/453,217

ON BRIEF

Before HAIRSTON, RUGGIERO, and BARRY, *Administrative Patent Judges*.
BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

A patent examiner rejected claims 1, 6, 11, 16, 20, and 25. The appellants appeal therefrom under 35 U.S.C. § 134(a). We affirm.

BACKGROUND

The invention at issue on appeal controls power in a portable electronic device. Manufacturers of portable electronic devices, particularly such radio communication devices, seek to provide longer lasting operation for the devices. Although lithium ion batteries offer increased operating times for devices, the appellants maintain that the impact of these batteries has not been fully exploited by traditional power control. (Spec. at 2.) More specifically, they assert that portable electronic devices traditionally

have been powered-off "even though there is a significant portion of unused energy remaining," (*id.*), in their batteries.

Accordingly, the object of the invention is to increase "the amount of energy obtained from a battery with a linear voltage/drain characteristic such as that of the lithium ion battery. . . ." (Appeal Br. at 2.) Toward that end, power control circuitry 315 includes a boost regulator 407 coupled to a battery voltage ("B+"). The boost regulator produces a regulator output signal 423 at a constant level output voltage independent of B+. In turn, the regulator output signal 423 powers a reference generator 409. An analog-to-digital converter ("ADC") 403 uses an internal reference signal 425 from the reference generator 409 to generate a digitized battery voltage signal 427 indicative of B+. A processor 405 compares the digitized battery voltage signal 427 to an undervoltage threshold stored therein. (*Id.*) According to the appellants, "[u]sing the boost regulator output signal as a reference to the ADC allows the battery voltage to fall below the voltage of the internal reference signal and shutoff at a lower under voltage threshold than," (Spec. at 3-4), that used in traditional power control.

A further understanding of the invention can be achieved by reading the following claim.

> 11. A method of controlling power supplied from a battery having a battery voltage to a portable electronic device, the method comprising the steps of:
>
> regulating the battery voltage using a boost regulator and providing a regulator output signal;
>
> generating an internal reference signal from the regulator output signal for use within the portable electronic device;
>
> digitizing the battery voltage using the internal reference signal and providing a digitized battery voltage signal;
>
> comparing the digitized battery voltage signal to a software undervoltage threshold; and
>
> selectively powering-off the portable electronic device in response to the step of comparing.

Claims 11 and 16 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,265,271 ("Marko"). Claims 1, 6, 20, and 25 stand rejected under 35 U.S.C. § 103(a) as obvious over Marko.

OPINION

At the outset, we recall that claims that are not argued separately stand or fall together. *In re Kaslow*, 707 F.2d 1366, 1376, 217 USPQ 1089, 1096 (Fed. Cir. 1983) (citing *In re Burckel*, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979)). Here, the appellants stipulate, "[a]ll the pending claims stand or fall together." (Appeal Br. at 2.) Therefore, claim 16 stands or falls with representative claim 11, and claims 6, 20, and 25 stand or

fall with representative claim 1. With this representation in mind, rather than reiterate the positions of the examiner or the appellants *in toto*, we address the point of contention therebetween.

The examiner asserts, "regulator 108 of Marko is a boost regulator because the generated output reference voltage signal V_{ref} 110 is boosted to a constant voltage level in regulation independently of the input voltage V_{sup} 126 of the battery 128. . . ." (Examiner's Answer at 4.)[1] The appellants argue, "Marko does not anticipate a boost regulator which provides a constant level output voltage independent of the input voltage, including input voltages which are less than the output regulated voltage, as defined on page 3 lines 22-25 of the application." (Reply Br. at 3.) They add that the reference's "first output voltage V_{reg} 106 loses regulation when the input voltage V_{sup} 126 is less than the first output voltage V_{reg} 106 set point, and the second output voltage V_{ref} 110 also loses regulation when the input voltage V_{sup} 126 is less than the second voltage V_{ref} 110 set point. See column 2 line 67 through column 3 line 17 and column 5 lines 50-65 of Marko." (*Id.*)

[1]We advise the examiner to copy his rejections into his examiner's answers rather than merely referring to a "rejection . . . set forth in prior Office Action. . . ." (Examiner's Answer at 3.)

"Analysis begins with a key legal question -- *what* is the invention *claimed*?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). "[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 13**??**, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) (citing *In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995); *In re Etter*, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985) (*en banc*)).

Here, representative claim 11 specifies in pertinent part the following limitations: "regulating the battery voltage using a boost regulator and providing a regulator output signal. . . ." Similarly, representative claim 1 specifies in pertinent part the following limitations: "a boost regulator, coupled to a battery output signal contact for receiving a battery voltage signal, for generating a regulator output signal. . . ." The section of the specification cited by the appellants explains that the boost regulator "provides a constant level output voltage independent of the input voltage, including input voltages which are less than the output regulated voltage." (Spec. at 3.) Giving the claims their broadest reasonable interpretation consistent with the specification, the limitations require using a regulator that provides an output voltage at a constant level.

"Having construed the claim limitations at issue, we now compare the claims to the prior art to determine if the prior art anticipates those claims." *In re Cruciferous*

Sprout Litig., 301 F.3d 1343, 1349, 64 USPQ2d 1202, 1206 (Fed. Cir. 2002). "[A]nticipation is a question of fact." *Hyatt*, 211 F.3d at 1371, 54 USPQ2d at 1667 (citing *Bischoff v. Wethered*, 76 U.S. (9 Wall.) 812, 814-15 (1869); *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). "A claim is anticipated . . . if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (citing *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983)).

Here, the appellants admit that "Marko proposes using a regulator 108 to create . . . a second reference voltage V_{REF} 110. . . ." (Appeal Br. at 3.) Furthermore, we find that the reference's regulator 108 provides its second reference voltage V_{REF} 110 at a constant level. Specifically, Marko refers to "the reference voltage V_{ref}110, **which is constant**. . . ." Col. 3, ll. 29-30 (emphasis added). In addition, the second passage of the reference cited by the appellants discloses that when "V_{reg}106 is . . . decreasing . . .**V_{ref}110 remains the same**. . . ." Col. 5, ll. 59-60 (emphasis added). Therefore, we affirm the rejection of claim 11 and of claim 16, which falls therewith.

In addressing the obviousness rejection, the appellants merely reference the argument they made for the anticipation rejection. Specifically, they explain, "[b]ecause Marko does not anticipate a boost regulator as discussed previously, claims 1 and 20 are not anticipated [sic] by Marko." (Reply Br. at 3.) Having rejected the argument for the reasons mentioned regarding the anticipation rejection, we affirm the obviousness rejection of claim 1 and of claims 6, 20, and 25, which fall therewith.

CONCLUSION

In summary, the rejection of claims 11 and 16 under § 102(b) and the rejection of claim 1, 6, 20, and 25 under § 103(a) are affirmed. "Any arguments or authorities not included in the brief[s] will be refused consideration by the Board of Patent Appeals and Interferences. . . ." 37 C.F.R. § 1.192(a)(2002). Accordingly, our affirmance is based only on the arguments made in the briefs. Any arguments or authorities not included therein are neither before us nor at issue but are considered waived. No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

KENNETH W. HAIRSTON Administrative Patent Judge	)
JOSEPH F. RUGGIERO Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
LANCE LEONARD BARRY Administrative Patent Judge	)

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